December 21, 2017

Dynegy's Post-Workshop Comments on MISO Zone 4 Resource Adequacy Issues
<u>for the Illinois Commerce Commission Workshop Process</u>

Dynegy is submitting these post-(initial) workshop Comments on MISO Zone 4 Resource Adequacy issues for the Illinois Commerce Commission's ("ICC" or "Commission") workshop process. These post-workshop Comments address both points raised in other participants' written pre-workshop comments and points raised in participants' presentations at the initial workshop held on December 7, 2017. As requested by Staff, these Comments also include suggestions for conducting the second workshop, scheduled to be held in mid-January 2018.

I. MISO/OMS Load and Capacity Forecasts

A number of participants have stated that the Midcontinent Independent System Operator ("MISO")/Organization of MISO States ("OMS") 2017 Survey ("OMS Survey"), dated June 2017, indicates there is no near-term resource adequacy concern for MISO Zone 4 (Downstate Illinois) because the OMS Survey projects capacity surpluses (*i.e.* available capacity above projected load plus the planning reserve margin ("PRM")) for the years 2017-18 through 2021-22. At the same time, however, some participants have criticized the OMS Survey as (i) forecasting excessive load growth, and (ii) not sufficiently recognizing anticipated new generating capacity additions.

Dynegy's approach for purposes of this workshop process, as expressed in its initial pre-workshop comments, has been to take the OMS Survey load and capacity forecasts as is and use them as the basis for analyzing the consequences for Zone 4 resource adequacy if some or all of the financially-threatened Dynegy generating units in Downstate Illinois are retired or their output is sold into other markets. With respect to the load forecast component of the OMS Survey, Dynegy notes that it is based principally on the load forecasts provided by utilities (distribution companies) in the MISO region. As Dynegy has observed, the utilities have strong incentives to produce reasonable and accurate load forecasts because they are using those forecasts for their own financial planning, capital budgeting, regulatory reporting, and financial and investor reporting and communications. While it has been suggested that the overall MISO-wide forecasts could be improved by having a third-party review and possibly adjust all of the individual utility forecasts, Dynegy doubts that any third-party reviewer would have greater knowledge and intelligence regarding the drivers of future load than the individual utilities that are knowledgeable about their own service territories.

Additionally, Dynegy does not see that the OMS Survey is over-forecasting load growth. As one participant (CUB) pointed out, MISO's longer-term load growth forecast for MISO Zone 4 is a meager (on average) 0.64 percent per year through 2026. Individual utilities do not have any particular incentive to over-forecast load growth, because forecasted load growth typically carries with it additional capital expenditure and resource acquisition needs. Further, the 2017 OMS Survey projected lower peak load for the 2018 planning year than did the 2016 OMS Survey, for nine of the ten MISO load zones.

MISO Load Zone	Forecasted Load Increase/(Decrease) for 2018 from 2016 Survey to 2017 Survey
Zone 1	(317.7) MW
Zone 2	(129.8) MW
Zone 3	(253.2) MW
Zone 4	(441.0) MW
Zone 5	(431.1) MW

Zone 6	(327.6) MW
Zone 7	(366.7) MW
Zone 8	80.8 MW
Zone 9	(154.9) MW
Zone 10	(159.9 MW)

Regarding the capacity side of the OMS Survey, participants have referenced substantial amounts of new renewable generation capacity, particularly wind and solar generation, planned for MISO Zone 4.[1] Participants have commented that the OMS Survey may understate the likely additions of new capacity. While Dynegy acknowledges that new renewables projects in the MISO interconnection queue aggregate to thousands of megawatts of nameplate capacity, Dynegy reiterates that the nameplate capacity of a wind or solar facility is much higher than its effective load-carrying capability (as applied by MISO) at the time of system peak, due to the variable nature of wind and solar generation. Based on information provided at a recent (December 13, 2017) MISO Resource Adequacy Subcommittee ("RASC") meeting, the projected new capacity resources in Zone 4 coming into service in Planning Years 2019-20 through 2022-23 total 200 MW of capacity available at time of peak. Of this total, zero is projected for 2019, 73 MW for 2020, another 54 MW for 2021, and the final 73 MW is projected for 2022.

Participants have also commented that the OMS Survey underestimates the amount of new generating projects currently in development that are expected to be completed and go into operation. First, as Dynegy understands it, the 2017 OMS Survey is the first survey that has taken new generating projects under development into account (as opposed to basing capacity solely on in-service generation), so the OMS Survey is now in fact recognizing potential future capacity additions. Second, MISO's approach is based on data and experience. The OMS Survey includes as "committed capacity" new generators with signed interconnection agreements, and as "potential capacity" 35% of new resources in the Definitive Planning Process ("DPP") of the MISO queue. The OMS Survey states that the 35% metric was based on the following data concerning projects that entered the DPP from 2012 through 2016:

- 37% of the projects withdrew from the queue.
- 26% of the projects completed the DPP and arrived at a generator interconnection agreement.
- This left a potential success rate of between 26% and 63% for projects still in the queue.

The assumed success rate of 35% for projects that have entered the DPP is approximately 42% higher than the actual experienced success rate during the years 2012 through 2016. Further, the farther into the future that the addition of new capacity resources is projected, the higher the uncertainty and risk that proposed new projects will not come to fruition.

On a MISO-wide basis, information provided at the recent MISO RASC meeting indicates that for planning years 2019-20, there is a total of 623 MW of potential new resources, accumulating to 3,306 MW of potential new resources by 2022-23 (that is, the 3,306 MW projected for 2022-2023 is the cumulative total of potential new resources added in 2019-20 through 2022-23). However, 1,197 MW of this total is in MISO Zone 9 (primarily in Louisiana), and 1,521 MW

[1] The table at pages 2-3 of the ICC White Paper lists 28 new generation projects in Zone 4 that are in the MISO interconnection queue, of which only one project – a 57 MW gas-fueled generator – is not a wind or solar facility. The total of the "Output (MW)" listed for these projects is approximately 4,400 MW.

of this total is in MISO Zones 8 (primarily in Arkansas), 9 and 10 (primarily in Mississippi). As noted in the OMS Survey, South-to-North transfer limitations may limit exports from Zones 8, 9 and 10. Zone 1 (western Wisconsin, Minnesota and the Dakotas), with 296 MW of potential new resources in 2022-23, has also historically been export-constrained.

The OMS Survey presents a range of capacity surplus (deficit) forecasts for each planning year in the forecast period, 2018-19 through 2022-23. The difference between the "low" and "high" ends of the capacity surplus forecasts is based on "potential new capacity" and "potentially unavailable resources." For Planning Year 2018-19, in Zone 4, potential new capacity totals 60.9 MW and potentially unavailable resources total 750.7 MW. For Planning Year 2022-23, potential new capacity totals 277.9 MW and potentially unavailable resources total 865.5 MW. These values account for the approximately 900 MW difference between the low and high capacity surplus projections for Zone 4 for 2018-19 and the approximately 1,100 MW difference between the low and high capacity surplus projections for 2022-23. Thus, to achieve the high end of the projected capacity surplus in a year, both all of the potential new capacity and all of the potentially unavailable resources would need to be in service. None of the at-risk Dynegy Downstate generating units are included in the "potentially unavailable capacity" for either year, with the exception of Baldwin Unit 3, which has been mothballed.

One participant (AARP) has urged that Illinois should not turn over responsibility for resource adequacy to MISO. However, MISO is already responsible for resource adequacy in Downstate Illinois (and PJM is responsible for resource adequacy in northern Illinois). MISO's (and PJM's) authority over resource adequacy emanates from the General Assembly's requirement in §16-126 of the Public Utilities Act (220 ILCS 5/16-126), originally enacted in 1997 as a component of electricity deregulation in Illinois, that each electric utility must be a member of an independent system operator. Load-serving entities in Downstate Illinois now provide for capacity in accordance with the requirements of the MISO tariff, including the Planning Reserve Margin Requirements ("PRMR") and Local Clearing Requirements ("LCR"). The State of Illinois has no remaining responsibility for resource adequacy, other than perhaps through the Illinois Power Agency's ("IPA") oversight of the electric utilities' procurement of capacity needed to serve the loads of their eligible retail customers.[2] Proposals such as Illinois Senate Bill 2250 and House Bill 4141 would return responsibility for resource adequacy in Downstate Illinois to the State – specifically, to the IPA and the ICC – although the resource adequacy targets would continue to be based on MISO's metrics including the PRMR and the LCR for MISO Zone 4.

II. At-Risk Status of the Dynegy Downstate Generating Units; Vistra Merger; MPS Rule

As stated in previous comments, generating units in Dynegy's Downstate fleet totaling approximately 3,000 MW (out of a total of approximately 5,500 MW) are at risk of shutdown because in the current market conditions, the revenues they receive are less than their fuel and operating costs. One participant has commented that Dynegy paid essentially nothing to acquire the units in the Downstate fleet that were formerly owned by Ameren. As part of the transaction, however, Dynegy assumed responsibility for approximately $800 million of debt associated with these plants. In any event, the amount of Dynegy's investment in the plants is irrelevant under present conditions, because the plants as a group are operating on a negative cash flow basis; revenues are less than operating costs. For the nine-month period ended September 30, 2017, the original Dynegy group of plants (Baldwin, Havana and Hennepin), collectively, had an operating

[2] In recent years, capacity to serve the eligible retail customers of Ameren Illinois has been procured through both IPA-supervised procurement events and the MISO Planning Resource Auction ("PRA").

income loss of $90 million; while the "Illinois Power Holdings" (*i.e.*, former Ameren) plants (Edwards, Duck Creek, Coffeen, Newton, and Joppa), collectively, had operating income of $40 million. Thus, the eight Downstate Illinois plants, in the aggregate, had an operating income loss for the nine months ended September 30, 2017 of $50 million.

One participant expressed concern that Dynegy is spending hundreds of millions of dollars to purchase coal for its Illinois plants from suppliers in Wyoming. However, Dynegy (and for some of the plants, their previous owners) determined that switching the plants to low-sulfur Western coal was the least-cost option for complying with federal and Illinois emissions limitations, particularly SO_2 emissions, and this continues to be the case. Switching the plants to Western coal is a lower cost option as compared to the cost of installing flue-gas desulfurization ("FGD") equipment at the plants sufficient to allow them to continue burning Illinois coal. (Nonetheless, Dynegy has installed FGD or similar technologies at five of its Illinois power stations: wet scrubbers have been installed at Duck Creek and Coffeen, and dry scrubbers or Dry Sorbent Injection (a similar technology) have been installed at Baldwin, Havana and Kincaid.) Using the lowest-cost emissions compliance option has helped to keep the plants more competitive in the MISO market and to reduce electricity costs for consumers. In any event, given the current MISO Zone 4 capacity market conditions, the prices and revenues provided fall far short of the levels that would be needed to support additional capital investments to enable the plants to burn higher-sulfur Illinois coal. The pending legislation supported by Dynegy, if it resulted in higher, market-based capacity revenues for the Dynegy plants, would enable consideration of fuel-switching or installing additional technologies and equipment.

Also, although most of the coal used at Dynegy's Illinois plants is mined in other states, Illinois Use Tax is paid to the State of Illinois on coal purchases delivered to Dynegy's Illinois plants from both out-of-State and in-State sources. Based on the 6.25% Use Tax rate, $6,250,000 is paid to the State for every $100 million of coal purchases delivered for use in Dynegy's Illinois plants. In recent years the Use Tax payments to the State for coal used at Dynegy's Illinois plants have ranged from $20 million to $30 million per year, depending on the amount of electricity generated (and therefore the amount of coal used) at the plants.

Some participants have urged that no action should be taken regarding Zone 4 resource adequacy until the Vistra-Dynegy merger closes, and they have noted public statements by Vistra and Dynegy that the merger is expected to generate $5.5 billion of free (uncommitted) capital for the merged company. Vistra and Dynegy have projected that the merger will generate about $5.5 billion in free capital over the five-year period 2018-2022. The companies anticipate that this capital will be earmarked principally for reducing outstanding debt. In any event, there is no reason why Vistra and Dynegy should be expected to use this capital to continue operating Illinois plants that are operating on a negative cash flow basis. Rather, Dynegy analyzes the financial viability of its generating units on a standalone basis, based on each plant's or unit's individual financial performance, and Dynegy anticipates that Vistra will do the same (as illustrated by Vistra's recent announcement that it will be closing three large coal-fueled generating stations in Texas). Stated simply, there is no reason why Dynegy should continue to operate generating units that do not receive sufficient revenues to cover their fuel and other variable costs. As Dynegy has stated in other presentations, given the current capacity market conditions in MISO Zone 4, Dynegy's available investment funds are better directed to its existing plants and other opportunities in the other states where it has operations.

A participant suggested that if Dynegy arranges to sell the capacity and/or energy output of the Joppa plant to another market outside of MISO, Dynegy should use the profits earned from these transactions to financially support its other at-risk Downstate plants. As stated in the previous paragraph, however, Dynegy evaluates, and will continue to evaluate, its at-risk Downstate generating units on the basis of their individual financial performances. There is no reason for Dynegy to specifically dedicate revenues received by the Joppa plant, in other markets, to cover the costs of other Downstate plants.

Several participants have also urged that no action should be taken regarding Zone 4 resource adequacy until after completion of the Illinois Pollution Control Board proceedings for adoption of the changes to the Multi-Pollutant Standard ("MPS") Rule proposed by the Illinois Environmental Protection Agency. The revised MPS Rule, if adopted, will provide some benefit to Dynegy in that it will enable Dynegy to operate the generating units covered by the MPS Rule and bid them into the MISO near-real-time energy markets on the basis of the generating units' fuel and operating costs, rather than based on the need to keep each MPS group of generating units within the emission rate limit specified in the current MPS Rule. The current MPS Rule has required Dynegy to operate higher-cost, lower-emitting units at a loss (*i.e.*, to bid them into the RTO energy markets at prices less than cost) in order to keep each MPS group below its specified emission rate limit. However, while the revised MPS Rule, if adopted, will somewhat improve the position of the Downstate Dynegy generating units in the MISO energy market, it will do nothing to improve conditions in the MISO capacity market or Dynegy's ability to receive adequate capacity revenues for the units.

III. Reliance on Generating Capacity from Outside Zone 4 to Meet Zone 4 Resource Adequacy and Local Reliability Needs, including through Increased Transmission

A number of participants have pointed out that there are numerous power plants situated throughout the Midwest region that have access to MISO Zone 4 through the transmission system, and that Zone 4 has high Capacity Import Limits that enable capacity from other zones to access Zone 4 and meet its PRMR even if a substantial portion of the at-risk Dynegy capacity in Downstate Illinois is shut down or sold into another market. These points, while accurate mathematically in a static perspective, beg some of the fundamental questions underlying this investigation:

- Should Illinois rely on capacity supplied by generating units owned by regulated utilities in other states (and on the expectation that this capacity will continue to be supplied) to meet Downstate Illinois' resource adequacy needs?

- If the load and capacity situation in other states, which are served by vertically-integrated, rate-regulated utilities, tightens, will those utilities still be able to supply capacity to meet the resource adequacy needs of Downstate Illinois?

- Will vertically-integrated, rate-regulated utilities in other states construct new capacity for the purpose of supplying the resource adequacy needs of Downstate Illinois?

Dynegy's view is that the answer to each of these questions is "no." Some participants have urged that Illinois should not turn responsibility for resource adequacy for Downstate Illinois over to MISO (as discussed above); and yet, if the status quo is maintained, Illinois may be turning over responsibility for resource adequacy for Downstate Illinois to out-of-state utilities and their regulatory commissions.

A participant pointed out, correctly, that if some of Dynegy's Downstate generating units sell their capacity and output into other markets, through pseudo-tying or other means, the units continue to serve Zone 4's local reliability needs, even though they are no longer serving Zone 4's resource adequacy needs. Correspondingly, capacity located in other states and imported into Zone 4 does not serve Zone 4's local reliability needs. Further, if additional Dynegy generating units are shut down, they are no longer available to serve Zone 4 local reliability needs.

A number of participants have stated that construction of increased transmission facilities can help to address any Zone 4 resource adequacy issues, by increasing the capability to import capacity into Zone 4. Also noted (as discussed earlier in these Comments) is the construction of new renewable generation facilities within Illinois. Construction of new generation, particularly construction of new renewable generation facilities in more remote areas of the State, requires the construction of new transmission facilities or expansion of existing transmission facilities to enable the output of the newly-constructed generation to reach load centers.[3] However, siting and construction of new high-voltage transmission lines has proven to be a difficult undertaking in recent years. Construction of new transmission lines is frequently opposed by impacted landowners and by landowner interest groups. For example, Ameren's Illinois Rivers transmission project encountered substantial opposition at the ICC, and though the project was eventually approved (granted a certificate of public convenience and necessity) by the ICC, Ameren Illinois has encountered additional difficulties in court as it has tried to acquire the easements necessary for construction of the transmission facilities. These scenarios recur around the country. In contrast, an advantage of the existing Downstate generating units is that they already have established connections to the transmission grid.

Further, and perhaps somewhat ironically, while participants object to higher generation capacity costs in Downstate Illinois that could result from adoption of options discussed in the ICC White Paper, they fail to note that new transmission facilities can be costly to ratepayers. Transmission owners generally recover their operating and investment costs, including a return on equity, through regulated rates set by the Federal Energy Regulatory Commission ("FERC") and incorporated into the tariffs of the relevant RTO(s). FERC has at times granted "adders" to the allowed rate of return on investment or rate of return on equity to incentivize the construction of new transmission facilities. The transmission costs are generally allocated to load-serving entities (transmission users) in the areas deemed to benefit from the new transmission, and the costs are ultimately charged to the retail customers of the load-serving entities.

Finally, while continued and increased reliance on generation from other states and increased transmission facilities to meet Zone 4's resource adequacy needs may be viewed as economic by some within the context of utility service costs, such an analysis ignores the collateral impacts of shutting down additional plants in Dynegy's Downstate fleet. In recent years, the eight Dynegy Downstate generating stations have provided a total of approximately 1,020 jobs, with aggregate annual payroll of about $110 million, and have provided annual direct and indirect economic impacts to the plants' respective local areas totaling about $1.48 billion:[4]

[3] The owner of a new renewable or other generator seeking interconnection to the existing transmission grid must, in general, pay for the costs of upgrades to the transmission system that are necessary for the newcomer to interconnect to the grid, and these costs can be significant. The need to pay significant costs for transmission upgrades can be a tipping point resulting in a proposed new generator not being completed.

[4] The list does not include the Kincaid plant, which employs 144 people, because it is connected to and operates within PJM rather than MISO.

Plant	Jobs	Payroll	Economic Impact[5]
Baldwin:	204	$24 million	$402.9 million
Coffeen:	151	$17 million	$388.6 million
Duck Creek:	93	$ 9 million	$187.0 million
Edwards:	118	$12 million	$ 82.3 million
Havana:	97	$12 million	$127.3 million
Hennepin:	85	$ 9 million	$ 51.9 million
Joppa:	178	$15 million	$141.6 million
Newton:	95	$11 million	$101.5 million

Through both their direct purchases of materials, supplies and services, and the indirect, multiplier effect of their payroll and other expenditures in their local communities and surrounding areas, these plants are responsible for significant employment and economic impacts in their areas. Also, the plants often pay substantial property taxes to local governmental units and school districts. For example, the 2016 property taxes payable in 2017 were $5,150,424 for Baldwin, $4,306,611 for Coffeen, $1,849,497 for Duck Creek, $1,615,455 for Havana, and $4,621,719 for Newton.

Dynegy agrees that new wind and solar generation plants being built in Illinois will create jobs during their construction and for operations, and that these facilities will pay income taxes to the State and property taxes to local governments. However, wind and solar plants simply cannot replace existing coal and nuclear plants in terms of employment, local economic impacts and property taxes paid. Wind and solar plants do not employ the numbers of workers needed to operate coal and nuclear plants (as illustrated by the above list of jobs at Dynegy's Downstate plants), nor do they pay as much in property taxes as large coal and nuclear plants, which typically have larger amounts invested in land, structures and permanent equipment.

IV. FERC Proceedings on DOE Proposal; Other MISO Initiatives

A number of participants have suggested that Illinois should take no action on Zone 4 resource adequacy and capacity market issues until the FERC has completed its proceeding on the U.S. Department of Energy ("DOE") proposal to provide specific compensation to generators that maintain 90-day on-site fuel supplies. The DOE initially requested that FERC act on the proposal by December 11, 2017. However, DOE recently agreed to FERC's request for a 30-day extension of that date. In any event, there is an issue as to whether the proposed rule being considered by FERC would apply to MISO – the proposed rule as published by FERC in the Federal Register would not apply to MISO – and numerous stakeholders, including MISO itself and the MISO Transmission Owners, filed comments with FERC urging that the DOE Proposal, if adopted, not be applied to MISO. (Dynegy was one of a group of independent power producers that filed comments with FERC opposing adoption of the DOE Proposal, and Dynegy continues to be opposed to the proposal as presented.) More generally, the overwhelming weight of the hundreds of separate comments filed with FERC urged that the DOE Proposal be rejected or, if adopted, be substantially modified and limited. Some of the participants in the ICC workshop process (including the Natural Resources Defense Council, the Environmental Defense Fund, the Sierra Club, the Environmental Law and Policy Center, the Illinois Attorney General, and IIEC) filed comments with FERC urging that the DOE Proposal be rejected. The likelihood that the DOE

[5]Economic impacts were calculated using the IMPLAN program, which is the same model used by experts such as Dr. David Loomis of Illinois State University and the Illinois Institute for Regulatory Policy Studies to calculate the economic impacts of the construction and operation of new renewable energy facilities. As noted, the economic impacts shown are for the market area surrounding each plant. For the State of Illinois as a whole, the comparable annual aggregate economic impact of the 8 plants is approximately $1.84 billion.

Proposal will be adopted in any form resembling the original proposal, if at all, appears to be extremely remote. The pendency of the DOE proposal should not provide a basis for delaying action by the State of Illinois to address resource adequacy concerns and capacity market flaws impacting Downstate Illinois.

Participants have also suggested that any action by the State of Illinois to address Zone 4 resource adequacy and capacity market issues should await the completion of MISO initiatives on "price formation." However, the recent and potential future MISO initiatives, including Extended Locational Marginal Pricing, Ramp Capability, and revisions to the MISO Energy Offer Cap, have been or are all directed to improving the MISO energy markets, not the capacity markets. Neither the DOE proposal at FERC nor the initiatives at MISO hold out the promise of solutions to Zone 4 resource adequacy and capacity market issues.

V. Format of the Second ICC Workshop

As of the preparation of these comments, the date, location and duration (*e.g.*, full-day or half-day) of the second workshop have not been announced. However, Dynegy understands that Staff intends to hold the workshop in a Downstate Illinois location. In light of this, Dynegy believes that a significant portion of the workshop time should be devoted to providing opportunity for comment from Downstate residents who may be impacted by Downstate resource adequacy issues (including generation plant closings). Additionally, ICC Staff has stated that they would like the participants to discuss an outline for the final Staff report. Dynegy will be prepared to discuss this topic at the workshop.

In light of ICC Staff's indication at the first workshop that they intend to base the final report solely on the participants' written comments, Dynegy does not see a need to devote a significant portion of the time at the second workshop to additional, extended substantive discussion by the participants of the issues, similar to the discussion conducted at the first workshop. However, it may be appropriate to dedicate a portion of the time to additional, limited duration presentations by participants on points raised at the first workshop.